

# ENERGY AND MACRONUTRIENT INTAKES IN OLDER URBAN AND RURAL IRANIAN ADULTS

Jamileh Amizadeh Iranagh<sup>1,2</sup>, Seyedeh Ameneh Motalebi<sup>2</sup>, Yoke Mun Chan<sup>2</sup>,  
Nurieh Amirzadeh Iranagh<sup>3</sup>, Elham Amirzadeh Iranagh<sup>3</sup> and Javad Rasouli<sup>3</sup>

<sup>1</sup>Faculty of Health, Urmia Medical Sciences University, Urmia, Iran; <sup>2</sup>Institute of Gerontology, Universiti Putra Malaysia, Serdang, Selangor, Malaysia; <sup>3</sup>Faculty of Nursing, Urmia Medical Sciences University, Urmia, Iran

**Abstract.** Adequacy of energy and macronutrient intakes is important for disease prevention, health maintenance and nutrition program development in older adults. The present study was designed to evaluate and compare the adequacy of energy and macronutrient intakes of elderly living in rural and urban areas in the north-west of Iran. A total of 432 older adults (332 urban and 100 rural) were selected through stratified, multistage probability cluster sampling. Dietetic information was obtained through three-day 24-hour dietary recall interviews. A small proportion of the subjects (4% rural and 0.6% urban) were underweight while approximately half was either overweight or obese. Aged subjects from the urban had a significantly higher mean body mass index (BMI) ( $t=3.46$ ,  $p<0.05$ ) than their rural counterparts. There was also significant greater proportion of elderly subjects who were overweight or obese ( $\chi^2=14.42$ ,  $p<0.05$ ). Older adults from the rural had significant more daily energy ( $t=3.49$ ,  $p<0.05$ ), carbohydrates ( $t=2.96$ ,  $p<0.05$ ) and fat intakes ( $t=3.15$ ,  $p<0.05$ ) than their urban counterparts. Generally, average daily intake of energy was lower than the Recommended Dietary Allowance (RDA) in developing countries. High contribution of carbohydrates and low contribution of proteins to total calory intake were observed in the daily diet of the elderly. There is a need to offer health and nutrition awareness programs for the elderly and their families by health care providers.

**Keywords:** aged, nutrition, macronutrient intake and energy intake, Iran

## INTRODUCTION

The world's population is growing fast towards aging (Hairi *et al*, 2010). It is expected that by the middle of this century one in every five persons will be old (Mujahid, 2006). The rapid changes in the number of aged population caused

an increased prevalence of chronic diseases and growth of functional limitations (Nakasato and Carnes, 2006; Singh and Hiatt, 2006). Age-related diseases and its expenditure are increasing and new health programs for the elderly need to be developed (Akbulut and Ersoy, 2008). Diet-related health continues to be a problem for the elderly and for those at risk for malnutrition (Ralston *et al*, 2011). Having a proper diet and regular physical exercise can help to prevent cardiovascular diseases, stroke, hypertension, type two

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Correspondence: Yoke Mun Chan, Institute of Gerontology, Universiti Putra Malaysia, 43400 UPM, Serdang, Selangor, Malaysia.  
Tel: +603 89472752; Fax: +603 89472744  
E-mail: yokemun\_chan@yahoo.com